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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/957,047	09/20/2001	Scott Parkhill	130209.433	3174

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EXAMINER

HYEON, HAE M

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 01/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/957,047

Applicant(s)

PARKHILL ET AL.

Examiner

Hae M Hyeon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because the reference number “95” on the left side of Figure 7 is pointing at the same object as the reference number “111” in Figure 7. Also, the reference numbers “59” and “57 in Figure 7 have arrow heads, but not in Figure 8.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
- In the Paragraph [0050], line 12, delete the reference number “35” after the reference number “33” because “35” is not the switches.
 - In the Paragraph [0051], line 5, change “high side 103” to -- low side 103 --.
 - In the Paragraph [0059], lines 8-9 recite, “the high side **substrate 55** and low side **substrate 53.**” However, the paragraph [0058] recites, “high side **switching assembly 55** and low side **switching assembly 53.**” The terminology for the same element should be consistent through out the present specification.
 - In the Paragraph [0063], lines 2-4, change “positive phase terminal” to -- positive terminal -- and change “negative phase terminal” to -- negative terminal --.
 - In the Paragraph [0065], line 3, change “connection 207” to -- connector 207 --.

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- In the Paragraph [0069], line 4, the examiner suggests the applicant to insert a reference number for, "The DC bus plate" because it is not clear which bus plate is being referred here since the present specification recites bus plate 59, 57, and 31.
- In the Paragraph [0078], it seems that "the compressed position" recited in line 5 should be -- decompressed position -- and "the decompressed position" in line 6 should be -- compressed position --. Or it seems that "Figure 23" recited in line 5 should be -- Figure 24 -- and "Figure 24" recited in line 6 should be -- Figure 23 --.

Appropriate correction is required.

Claim Objections

3. Claims 1 and 12 are objected to because of the following informalities:
 - Claim 1, line 8, change, "a substrate" to -- said substrate -- because the substrate was introduced in line 2.
 - Claim 12, lines 7 and 9, change, "a substrate" to -- said substrate -- because the substrate was introduced in line 5.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1, 3, 4, and 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchida (5,975,914).

Uchida discloses an electrical connector 50 comprising a first end portion 58a, a second end portion 58b, a compliant portion (portion that engages the engagement member 42) and a fastener 32. The first end portion 58a forms an electrical connection with a substrate 70 when the compliant portion 42 is in a compressed position. The compliant portion 42 is situated between the first and second end portions. The first end portion 58a extends inward to the second end portion 58b. The compliant portion 42 is curved inward to the second end portion 58b. The connector 50 is designed to receive two substrates, one on the first end portion 58a and the other on the second end portion 58b. The substrate engaging the second end portion 58b exerts downward pressure to the compliant portion 42.

6. Claims 1, 2, 4, 5, and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by White (5,395,252).

White discloses an electrical connector 18 comprising a first end portion 37, a second end portion 36, and a compliant portion 32. The first end portion 37 forms an electrical connection with a substrate 14 when the compliant portion 32 is in a compressed position. The compliant portion 32 is situated between the first and second end portions. The first end portion 37 extends outward from the second end portion 36. The compliant portion 32 is curved outward from the second end portion 36. A substrate 12 engages the second end portion 36 and exerts downward pressure to the compliant portion 32.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (5,975,914).

Claim 11 recites that the fastener is a bolt. However, Uchida discloses the fastener 32 being a latch. The official notice is taken that a bolt is one of the well-known fasteners. Fasteners such as a screw, bolt and nut, a rivet, an adhesive, and a latch are commonly known fasteners.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the fastener taught by Uchida such that it would be a bolt as taught by the instant invention because both latch and bolt are known fastener that can be use interchangeably without affecting the function of a device.

9. Claims 12, 14, 15 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buckle et al (4,458,305) in view of Uchida (5,975,914) and Deam et al (5,172,310).

Buckle disclose a DC Bus comprising a DC conductor bus plates 123 and 124 and a connector 134. Although, Buckle does not define DC conductor bus plates 123 and 124 to be a positive or a negative bus plate, it is inherent that one of the bus plates 123 or 124 is a positive or a negative bus plate because the bus plates 123 and 124 are input bus plates. Figure 12 of Deam shows the same type of device having input bus plates 102 and 104, where the bus plate 102

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being a positive bus plate and the bus plate 104 being a negative bus plate. Buckle further discloses a connector 134 having one end attached to one of the bus 123 or 124 and the other end attached to a substrate 121. However, the connector 134 of Buckle is a rope connector that uses welding to make a connection, which does not require a pressure engagement.

Uchida, on the other hand, discloses a connector 50, which engages a mating substrate by applying a pressure to the connector 50. Because the connector 50 of Uchida makes an electrical connection with the substrate 70 by applying pressure, the connector 50 of Uchida does not require a physical connection such as welding. Therefore, the connector 50 of Uchida provides an easy assembly and a fast and a secure electrical connection between the connector 50 and the substrate 70. Regarding to the structure of the connector, the examiner will not discuss it further here since the examiner has already explained the connector structure of Uchida in above rejections in the paragraphs 5 and 8. Furthermore, a pressure engagement connector is well known in the art of an electrical connector.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the connector taught by Buckle such that it would be a pressure engagement connector as taught by Uchida because the pressure engagement connector does not require a physical connection such as welding and provides an easy, a fast, and a secure connection.

10. Claims 12, 13, 15, 16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buckle et al (4,458,305) in view of White (5,395,252) and Deam et al (5,172,310).

Claims 12, 13, 15, 16 and 18-20 recite the same limitations as claims 12, 14, 15 and 17-22 except for the structure of the connector. Since, the same rejection applies to claims 12, 13, 15, 16 and 18-20 and the examiner already explained the structure of the connector of White, the examiner will not repeat the rejection applied in the paragraph 9.

Conclusion

11. **It is unnecessary, however, that inventions of references be physically combinable to render obvious an applicant's invention.** *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983). The test for obviousness is not whether the features of a reference may be bodily incorporated into the structure of another reference but what the combined teachings of those references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871,881 (CCPA 1981).

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 5,230,632 by Baumberger et al. and US Patent No. 5,653,598 by Grabbe disclose a connector similar to the connectors disclosed by Uchida and White, which has a structure that can be read on the limitations recited in claims 1-11.

US Patent No. 4,224,663 by Maiese et al., US Patent No. 5,537,074 by Iversen et al., US Patent No. 5,938,451 by Rathburn, US Patent No. 6,166,937 by Yamamura et al., and US Patent No. 6,176,707 B1 by Neidich et al.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hae M Hyeon whose telephone number is 703-308-4802. The examiner can normally be reached on Mon.-Fri. (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D Feild can be reached on 703-308-2710. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Hae M Hyeon
Examiner
Art Unit 2839

hnh
January 8, 2003

Hae Moon Hyeon